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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/649,827      | 08/29/2000  | Edward A. Schrock    | 303.527US2          | 8668             |

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EXAMINER

GALLAGHER, JOHN J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1733

15

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/6K987

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 3K-63 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 3K-63 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit 1733

1. Applicants' Supplemental (Preliminary) Amendment, filed 14 August 2002, has been received and made of record.

2. Claims 39-50 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically (a) the term "affixing" in the first step (i.e. line 3) of each of independent claims 39 and 44 should apparently read (something along the line of) "contacting", in that no affixing is seen to take place until AFTER the second and third steps in each of these claims have been effected and completed; and (b) claim 48 is seen to be partially (i.e. the term "curing the die") inaccurate in that, since the semiconductor die is apparently not formed of a curable or organic material, it is seen to be non-curable and therefore not cured.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international

Art Unit 1733

application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 34, 37-38 and 51-63 are rejected under 35 U.S.C. 102(e) and (b), respectively, as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either King or Bradley (both already of record).

King (Fig. 1, Abstract, column 1 lines 11-12, column 2 lines 66-67, column 3 lines 1-8 and 13-32, column 4 lines 1-2 and 10-15) and Bradley (Fig. 2, Abstract, column 1 lines 14-15 and 59-64, column 2 lines 4-12, column 3 lines 3-10) both disclose that it is known to attach or bond an electrical and/or electronic element to an organic (i.e. PCB) substrate utilizing a double sided low temperature (i.e. pressure sensitive) adhesive tape. The following are additionally advanced regarding this rejection: (a) The electrical and electronic (e.g. "chip") components employed by these two respective patentees are seen to encompass within their scope, definition and suggestion semiconductor dice (the elements envisioned for use by applicants in their invention), as well as capacitors, resistors, inductors, diodes, IC chips etc. (with the word "chip" being seen to be fairly and clearly suggestive and especially indicative of semiconductor die elements) to those of ordinary skill in this art; to contend otherwise would be to attribute less than ordinary skill to the routineer in this art, to presume

Art Unit 1733

"stupidity rather than skill" (In re Sovish 226 USPQ 771); (b) the bonding processes of these two respective patentees are clearly indicated as being conducted at low (i.e. room and "cold", respectively) temperatures (i.e. at less than 100°C), which is also applicants' desired envisioned and avowed rationale (e.g. N.B. page 8 lines 10-16 of their specification); and (c) not surprisingly, the use of the adhesive tapes of these respective patentees results in one side of the tape contacting and adhering to the electrical element and the other side of the tape contacting and adhering to the (PCB) substrate (N.B. column 4 lines 10-15 of King and N.B. column 3 lines 3-8 of Bradley); to the extent that there may be any differences between the interposition of the adhesive film between element and substrate (as by these patentees) and the sequential contacting of the adhesive film with first one and then the other of the element and substrate (as apparently envisioned by applicants), such (possible) differences are seen NOT to constitute patentable differences, in that, especially for purely physical steps (i.e. in the instant situation, contacting and pressing), such steps performed concurrently or simultaneously are generally equivalent to those performed successively (or sequentially) or in stepwise manner (In re Freed 165 USPQ 570; In re Tatincloux 108 USPQ 125; In re White 5 USPQ 267), and are therefore seen to constitute

Art Unit 1733

obvious alternatives or variants to those of ordinary skill in this art.

5. Claims 35-36 and 39 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsukahara (also already of record).

Tsukahara discloses a process most similar to those of King and Bradley wherein the adhesive employed in the double sided tape is composed of a hybrid mixture of thermoplastic and thermosetting resins. (Fig. 14, Abstract, column 8 line 37 thru column 9 line 5). The teaching of this patentee is seen to be consistent and in agreement with page 14 line 15 thru page 15 line 4 of applicants' specification. Further regarding this rejection, see paragraph 4(c) above, and (again) N.B. column 8 line 37 thru column 9 line 5 of this patentee.

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 40-50 are further rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukahara in view of

Art Unit 1733

applicants' admission as to what constitutes prior art/the state of the art (hereinafter referred to as prior art admission).

The prior art admission (also already of record - N.B. page 1 lines 9-24 of applicants' specification) establishes that the various additional processing steps claimed (viz. wire bonding, resin encapsulation etc.) are known and conventional, such that it would have been obvious to one of ordinary skill in this art to employ any and/or all of these known, standard steps in/in conjunction with the process of Tsukahara, wherever deemed desirable and/or necessary.

7. Claims 34, 37-38 and 51-63 are further rejected under 35 U.S.C. § 103(a) as being unpatentable over either King or Bradley, each in view of Tsukagoshi et al. (also (unofficially) already of record).

Tsukagoshi et al. disclose that the term "electronic parts" (indeed) encompasses semiconductor chips or chip elements within the metes and bounds of its definition. (N.B. column 1 lines 8-16 and especially lines 13-16, column 10 lines 55-64). This reference is specifically applied (a) for the sake of exposition and completeness, and to support the contention made by the Examiner in paragraph 4(a), above; and (b) ONLY to document the aforementioned definition.

Serial No. 09/649,827

-7-

Art Unit 1733

9. Finally, it is noted that the environment of all of the applied references is essentially the same as that of applicants (viz. electrical/electronic).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. J. Gallagher whose telephone number is (703) 308-1971. The examiner can normally be reached on M-F from approximately 8:30 A.M. to 5 P.M. The examiner can also be reached on alternate N/A.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball, can be reached on (703) 308-2058. The fax phone number for this Group is (703) ~~305-3599~~ <sup>872-9310</sup>.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661/0662.

JJGallagher:cdc

September 6, 2002



JOHN J. GALLAGHER  
PRIMARY EXAMINER  
ART UNIT 1733